

Appl. No. : 10/696481
Filed : October 29, 2003

REMARKS

Claims 1-27 are currently pending. Claims 1-27 stand rejected.

Claims 1-27 are definite under 35 U.S.C. §112, second paragraph

As discussed in the interview of December 28, 2005, the phrase “mirrored projection” is definite when viewed by one of skill in the art in light of the specification. In particular, the term is used to define the desired relative placement of the ribs, and is not meant to denote a quality or characteristic of a finish on a surface of one of the ribs. In this respect, Applicant notes that the phrase “mirrored projection” is similar to the phrase “mirror image,” in that it denotes the mirror image of a projection of one of the ribs. Such a projection may be made onto a surface, one example of which is shown in FIG. 4 of the specification.

FIG. 4 depicts shadows 28, which are types of projections, on the left hand side or forward portion of the chamber, formed on a surface such as a wafer 20. The mirrored versions of these projections (or “mirrored projections”) occur on the opposite side of the axis of rotation (shown as α) and are depicted as items 30 in FIG. 4. Similarly, for those projections 28’ on the right hand side or rearward portion of the chamber, mirrored projections 30’ occur on the opposite side. Support for this interpretation can be found throughout the figures and the specification, for example, in FIG. 4 (as well as FIGs. 1-3) and paragraphs [0031]-[0033]. In particular, paragraph [0033] of the specification states:

It has been found that when the susceptor 22 and wafer 20 are rotated, as indicated in FIG. 4, each of the forward ribs 24 forms a secondary shadow or mirrored projection 30 on the susceptor 22 and wafer 20 in the rearward portion of the chamber 10. It has been similarly found that when the susceptor 22 and wafer 20 are rotated, each of the rearward ribs 24’ forms a mirrored projection 30’ in a forward portion of the chamber 10.

Accordingly, Applicant submits that the term “mirrored projection” is sufficiently definite, and that this rejection should be withdrawn.

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Claims 1-27 do not omit essential elements under 35 U.S.C. §112, second paragraph

Claims 1-27 were rejected as lacking essential elements. As discussed in the interview of December 28, 2005, the Examiner indicated that this issue is moot in light of the definite meaning of the phrase “mirrored projection,” discussed above and in the interview. As such, Applicant requests that this rejection be withdrawn.

Claims 1-27 are non-obvious over Ikeda et al.

Claims 1-27 stand rejected as obvious under 35 U.S.C. §103 in light of Ikeda et al (U.S. Pat. No. 6,132,553, hereinafter “Ikeda”).

Applicant agrees, as stated in the Office Action, that Ikeda does not teach the location or relationship of the ribs to form the desired projection locations. (Pages 3 and 4 of the Office Action). In particular, the cited reference does not teach the recited combination where the ribs are staggered. Moreover, the reference does not teach that the ribs should be staggered in the particularly claimed manner.

As noted above, the Office Action has not provided a reference that teaches all of the elements or that provides a motivation for modifying the recited elements in the claimed manner. Rather, it has been asserted that the claimed structure would result from mere optimization of a chamber. The Examiner has cited *Gardner v. TEC Systems* (725 F.2d 1338) as supporting the assertion that “where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.”(emphasis added, Page 4, Office Action). Applicant respectfully traverses the rejection.

As an initial point, Applicant notes that the cited case law does not apply to these instant circumstances. Applicant notes that the cited case law is discussed in the M.P.E.P. as relating to “Changes in Size/Proportion.” (M.P.E.P. §2144.04(IV)(A)). As noted in the specification, for example, FIG. 4, the recited placement of the ribs is not merely one of a change in size or proportion over what is taught in the prior art (as might be if the ribs were simply spaced farther apart from each other but still equidistant). Rather, the currently claimed invention recites a

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change in rib placement, specifically staggering the position of the ribs, in forward and rearward sections of a chamber, something which was not discussed in the prior art.

Additionally, even if this case law were to be given such a broad reading, it would not be applicable here. As noted in the Office Action, *Gardner* applies where the claimed relative dimensions would not perform differently from the prior art device. However, as noted in the application itself, the particular placement of the ribs in the claimed invention results in a more uniform distribution of energy (end of paragraph 0034 of the specification as published). Thus, *Gardner* would not be applicable as the particular placement of the ribs results in a device with different properties over the prior art. As such, Applicant submits that the presently claimed invention is nonobvious and respectfully requests that the rejection be withdrawn and the claims allowed.

Additionally, regarding the general allegation that the above claimed rib placement would have been obvious through mere optimization, Applicant notes that only result effective variables can be “optimized.” (“A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).” M.P.E.P. §2144.05(II)(B)). Applicant notes that no assertion or showing has been made that rib placement on these chambers had been previously recognized as a result effective variable, particularly to provide the result of a more uniform distribution of energy. Moreover, no showing has been made that *relative* rib placement, between the forward and rearward ribs, was previously recognized as a result effective variable to produce a more uniform distribution of energy. As such, mere optimization of the prior art would not have resulted in the presently claimed invention.

The Examiner is respectfully reminded that “[t]he mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device.” *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984)” (M.P.E.P. §2144.04(VI)(C)). Applicant notes that the only

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discussion of the presently claimed combination of elements and their advantages appears to be in the present application, further supporting Applicant's assertion that the claims are nonobvious.

Because 1) the placement of the ribs is not merely a relative change in relative dimensions, 2) the claimed elements do result in a change in performance of the claimed device over the prior art, and 3) general rib placement and relative rib placement between the front and the back of the chamber were not recognized as result effective variables, Applicant submits that a *prima facie* case of obviousness has not been established. As such, Applicant requests that the rejection be withdrawn and the claims allowed.

CONCLUSION

In view of the foregoing remarks, Applicant submits that the application is now in condition for allowance and respectfully request the same. If, however, the Examiner feels some issue remains that can be addressed by Examiner's Amendment, the Examiner is cordially invited to call the undersigned for authorization.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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